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ABSTRACT

This study aimed to provide systematic empirical evidence for how postsecondary institutions support and promote the use of assessment information in academic decision making. A survey instrument, Institutional Support for Student Assessment, was developed as an inventory of external influences on student assessment; institutional approaches to student assessment; patterns of organizational and administrative support for student assessment; assessment management policies and practices; and the uses and impacts of assessment information. Linear regression analysis of completed surveys from 1,393 postsecondary institutions was used to identify which institutional variables related to the use of student assessment data for academic decision making. Significant predictor variables were the number of institutional studies relating students' performance to their interactions with the institution; use of student assessment data to improve internal institutional performance; involvement of student affairs personnel in student assessment; the extent of student assessment; and the extent of professional development related to student assessment offered to faculty and staff. These findings varied by institutional type. The study concluded, however, that many institutions are not using student assessment data when making academic decisions and that many are unaware of how influential this data can be. (Contains 55 references.) (Author/DB)

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Organizational Practices Enhancing the Influence of Student Assessment Information in Academic Decisions

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Organizational Practices Enhancing the Influence of Student Assessment Information in Academic Decisions

Student assessment should not be undertaken as an end in itself but as a means to educational and institutional improvement. The purpose of our study is to provide systematic empirical evidence of how postsecondary institutions support and promote the use of student assessment information in academic decision making. We used linear regression to determine which institutional variables were related to whether student assessment data was influential in academic decisions. Our conclusion is that many institutions are not using student assessment data when making academic decisions. Even more are not aware of how influential this data is, implying that using student assessment data for decisions has not been intentional. Nonetheless, we did find several significant predictor variables in our model, including: the number of institutional studies relating students' performance to their interactions with the institution; conducting student assessment to improve internal institutional performance; involving student affairs personnel in student assessment; the extent of student assessment conducted; and the extent of professional development related to student assessment that is offered to faculty, staff, and administrators. These findings varied by institutional type.

Organizational Practices Enhancing the Influence of Student Assessment Information in Academic Decisions

Introduction

Over the past decade the number of colleges and universities engaged in some form of student assessment activity has increased (El Khawas, 1988, 1990, 1995). Considerable descriptive information has been collected regarding the content and methods comprising institutions' student assessment approaches (Cowart, 1990; Johnson, Prus, Andersen, & El-Khawas, 1991). Institutions have reported impacts on students' academic performance as a result of student assessment efforts (Walleri & Seybert, 1993; Williford & Moden, 1993; RiCharde, Olny, & Erwin, 1993). Understanding how colleges assess students and how assessment impacts students provides us with only a portion of the picture. We need to understand how institutions are using the results of student assessment for institutional improvement as well. The literature clearly maintains that the assessment of student performance should not be undertaken as an end in itself but as a means to educational and institutional improvement (AAHE, 1992; Banta & Associates, 1993; Ewell, 1987b, 1988b, 1997). If institutions are using student assessment data for educational and institutional improvement, there should be evidence that they are using such data to make academic-related decisions. Such decisions could include modifying teaching methods, designing new programs, and revising existing curriculum. In examining such decisions, it is important to understand not only the influence of the assessment process itself, but of the organizational patterns of support for student assessment. To date, there has been little systematic examination of the relationship between an institution's organizational and administrative patterns designed to support and promote the use of student assessment

information and the influence of this information on institutional academic decision making (Banta, Lund, Black, & Oblander 1996; Ewell, 1988b; Gray & Banta, 1997).

Purpose of Study

The purpose of our study is to provide systematic empirical evidence of how postsecondary institutions support and promote the use of student assessment information in academic decision making. Specific research questions include:

1. To what extent has student assessment information influenced academic decision making?
2. How are institutional approaches to, organizational and administrative support patterns for, and management policies and practices regarding student assessment related to the use and influence of student assessment information in academic decision making?
3. How do these relationships vary by institutional type?

Literature Review and Conceptual Framework

Based on an extensive literature review of the organizational and administrative context for student assessment in postsecondary institutions (Peterson, Einarson, Trice, & Nichols, 1997), we developed a conceptual framework of institutional support for student assessment. Figure 1 is derived from this conceptual framework and is the guiding framework for this study. In this framework we omit external influences as they are not considered in this study. We will be considering the role of institutional context; institutional approaches to student assessment; organizational and administrative support for student assessment; assessment management policies and practices; and academic decisions using student assessment information.

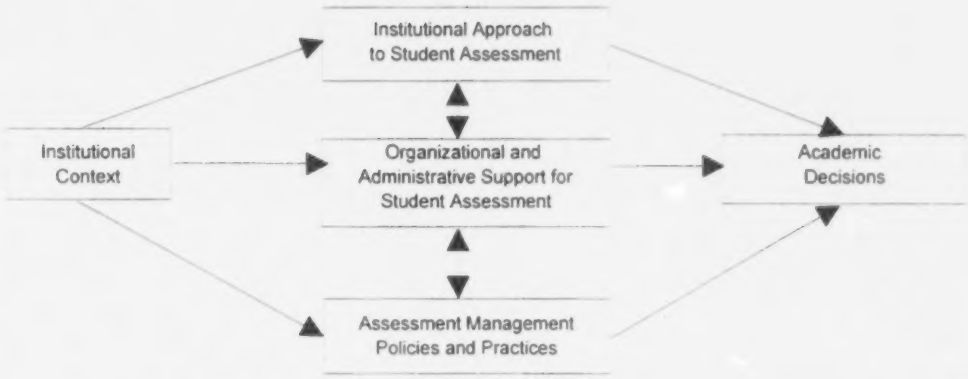
Institutional Approach to Student Assessment
Institutional Context
Organizational and Administrative Support for Student Assessment
Academic Decisions
Assessment Management Policies and Practices

Figure 1. Conceptual Framework

Institutional Context

Institutional context is expected to directly affect approaches to student assessment, the organizational and administrative support patterns, and assessment management policies and practices. Variations in methods and forms of organizational support for student assessment have been linked to differences in institutional type (Johnson et al., 1991; Steele & Lutz, 1995; Steele, Malone, & Lutz, 1997; Patton, Dasher-Alston, Ratteray, & Kait 1996). Other studies have found that differences in organizational and administrative support for student assessment vary by institutional control (Johnson et al., 1991) and size (Woodard, Hyman, von Destinon, & Jamison, 1991). Muffo (1992) found that respondents from more prestigious institutions were less likely to react positively to assessment activities on their campuses.

Institutional Approach to Student Assessment

The literature identifies several domains as the basis for comparing institutions' student assessment approaches. Three of the most commonly defined domains are content, methods, and

analyses (Astin, 1991; Ewell, 1987c). In terms of content, institutions may collect data on students' cognitive (e.g., basic skills, higher-order cognitive outcomes, subject-matter knowledge), affective (e.g., values, attitudes, satisfaction), behavioral (e.g. involvement, hours spent studying, course completion), and post-college (e.g. educational and professional attainment) performance or development (Alexander & Stark, 1986; Astin, 1991; Bowen, 1977; Ewell, 1984; Lenning, Lee Micek, & Service, 1977).

According to the literature, most institutions have adopted limited approaches to student assessment - focusing primarily on cognitive rather than affective or behavioral assessment (Cowart, 1990; Gill, 1993; Johnson et al., 1991; Patton et al., 1996; Steele & Lutz, 1995, Steele et al., 1997). While the results of our national survey (Peterson, Einarson, Augustine, & Vaughan, 1999) confirm that institutions are adopting limited approaches to students assessment, our results indicate that institutions are focusing more on post-college outcomes and behavioral assessments of satisfaction and involvement than on cognitive outcomes.

Methods of collecting data on students may include comprehensive examinations; performance-based methods such as demonstrations or portfolios, surveys or interviews; or the collection of institutional data such as enrollment or transcript information (Ewell, 1987c; Fong, 1988; Johnson, McCormick, Prus, & Rogers, 1993). Most evidence suggests that institutions are using data collection methods that are easy to both conduct and analyze, such as course completion and grade data (Cowart, 1990; Gill, 1993; Patton et al., 1996; Steele & Lutz, 1995; Peterson et al., 1999). Nonetheless, longitudinal studies have documented an increase in the tendency to use more complex measures such as portfolio assessment (El-Khawas, 1992, 1995).

In terms of analyses, institutions may vary in the levels of aggregation at which they conduct their studies, such as at the individual student, the department, the school, or the college

level (Alexander & Stark, 1986; Astin, 1991; Ewell, 1984, 1988b). Analyses may be also vary by complexity - reports may contain descriptive summaries of student outcomes, comparative or trend analyses, or relational studies relating student performance to aspects of their educational experiences (Astin, 1991; Ewell, 1988b; Pascarella & Terenzini, 1991).

Organizational and Administrative Support for Student Assessment

Within the organizational and administrative support environment, two domains are suggested as potential influences on the use of student assessment data: student assessment strategy (Ewell, 1987a; Hyman, Beeler, & Benedict, 1994) and leadership and governance patterns supporting student assessment (Ewell, 1988a, 1988b; Johnson et al., 1991). Student assessment strategy includes the mission and purpose for conducting student assessment. Research has found that institutions which profess an internal-improvement purpose for conducting assessment foster greater support for their activities than do those institutions which conduct assessment in response to external mandates (Aper, Cuver, & Hinkle, 1990; Braskamp, 1991; Ewell, 1987a; Hutchings & Marchese, 1990; Wolff & Harris, 1995). Another aspect of strategy is the institutional mission. Whether the mission prioritizes undergraduate teaching and learning (Banta & Associates, 1993; Hutchings & Marchese, 1990) and student assessment (Duvall, 1994) as important activities, or specifies intended educational outcomes (Braskamp, 1991) may be predictive of greater internal support for student assessment.

Both administrative (Banta et al., 1996; Duvall, 1994; Ewell, 1988a,; Rossman & El-Khawas, 1987) and faculty (Banta & Associates, 1993) support are reported to be important positive influences on an institution's assessment activities. The nature of the governance and decision-making process for student assessment and the number of individuals involved in decision-making are important indicators of the level of support for student assessment

throughout an institution. Whether or not this governance and decision-making is centralized in upper hierarchical levels or organizational units of an institution is expected to influence the level of support for student assessment. While on the one hand, a centralized approach indicates that there is support at the top for student assessment (Ewell, 1984; Thomas, 1991), most researchers have found favorable effects of a decentralized approach as such tends to involve more faculty (Astin, 1991; Banta et al., 1996; Eisenman, 1991; Ewell, 1984; Marchese, 1988; Terenzini, 1989).

Assessment Management Policies and Practices

The extent to which institutions develop specific management policies and practices to promote student assessment is linked to the level of support for student assessment within the institution (Ewell, 1988a). Examples of such assessment management policies and practices include linking internal resource allocation processes to assessment efforts (Ewell, 1984, 1987a, 1987b, 1987c, 1988a; Thomas, 1991); creating computerized student assessment information systems to manage and analyze data (Ewell, 1984, 1988a; Terenzini, 1989); regularly communicating student assessment purposes, activities, and results to a wide range of internal and external constituents (Ewell, 1984; Mentkowski, 1991; Thomas, 1991); encouraging student participation in assessment activities (Duvall, 1994; Erwin, 1991; Loacker & Mentkowski, 1993); providing professional development on student assessment for faculty, administrators, and staff (Ewell, 1988b, Gentemann, Fletcher & Potter, 1994); and linking assessment involvement or results to faculty evaluation and rewards (Ewell, 1984; Halpern, 1987; Ryan, 1993; Twomey, Lillibridge, Hawkins, & Reidlinger, 1995). All of these policies and practices have been recommended as methods to increase both assessment support and activity levels. However,

scholars differ on the usefulness and efficacy of linking student assessment results to faculty evaluations.

Academic Decisions

Researchers suggest data collected from student assessment efforts may be used to inform a variety of academic decisions including academic planning, mission, and goal development; academic governance; internal resource allocation; academic program review; professional development offerings; faculty evaluation; and student academic support services (Banta et al., 1996; Ewell, 1984, 1987a, 1987b, 1987c, 1988b, 1997; Pascarella & Terenzini, 1991; Thomas, 1991, Jacobi et al., 1987). Positive relationships between student assessment data and academic decisions is expected to have an influence on institutional perceptions of the importance of, the degree of involvement in, and the commitment to student assessment efforts.

Studies on whether institutions use student assessment data for such purposes have been somewhat limited in scope. Most extant knowledge about whether and how institutions have utilized student outcomes information and how it impacts institutions comes from participant observation in single institutions or comparisons of a small number of similar institutions (Banta & Associates, 1993; Banta et al., 1996). Existing evidence from limited multi-institutional research indicates student assessment information is used most often in academic planning decisions (Barak & Sweeney, 1995; Hyman et al., 1994) and least often in decisions regarding faculty rewards (Cowart, 1990; Steele & Lutz, 1995).

Kasworm and Marienau (1993) reported on the experiences of three institutions in which efforts to plan and implement student assessment stimulated internal consideration and dialogue about the institutional mission. In Ory and Parker's (1989) examination of assessment activities at large research universities, informing policy and budget decisions was among the most

commonly reported uses of assessment information. Several institutions have reported using student assessment information within the program review process to evaluate program strengths and weaknesses and to inform subsequent decisions regarding program modification, initiation, and termination (Walleri & Seybert, 1993; Williford & Moden, 1993). Knight and Lumsden (1990) described how one institution's engagement in student assessment efforts led to the provision of faculty development regarding assessment alternatives and related issues of their design, implementation, and interpretation. Modifications in student advisement processes and goals in response to assessment information have also been noted (Knight & Lumsden, 1990).

Scholars have speculated that the use of student assessment data depends on the extent of organizational and administrative support for student assessment and on the content and technical design of the student assessment approach (Peterson, et al., 1997). However, there has been little attempt to link differences in the uses of student assessment to specific variations in forms of organizational and administrative support for student assessment. This study will aim to fill this gap.

Methods

Instrument and Sample

Prior to developing our survey instrument, we conducted a review and synthesis of the literature on student assessment (Peterson et. al, 1997). We structured our survey on the institutional dynamics, policies, and practices related to student assessment reported in the literature. Our preliminary instrument was pilot tested with chief academic administrators in four different types of institutions (associate of arts, baccalaureate, comprehensive, and research); these pilot tests led to revisions of the questionnaire.

The resulting instrument "Institutional Support for Student Assessment" (ISSA) is a comprehensive inventory of: external influences on student assessment; institutional approaches to student assessment; patterns of organizational and administrative support for student assessment; assessment management policies and practices; and the uses and impacts of assessment information. In winter 1998, we surveyed all 2,524 U.S. institutions of postsecondary education (excluding specialized and proprietary institutions) on their undergraduate student assessment activities. We received 1,393 completed surveys by our deadline, for a response rate of 55%. For a detailed discussion of survey procedures, see Peterson, et al., 1999.

Variables

Most of the variables we examined in this study are factors or indices created from the Institutional Support for Student Assessment (ISSA) Survey. Table 1 lists all of the variables we examined in this study, their content, values, and data source. We attempted to reduce the data in our study in order to develop more accurate dimensions and to better manage analysis. Data was reduced through either factor or cluster analysis. In the factor analyses, items within sections were factored using an oblique rotation method. Items were chosen for inclusion in a factor if they weighed most strongly on that factor, their loadings exceeded .40, and they made sense conceptually (see Peterson et al., 1999 for further details on how the items factored). Cluster analysis was used on sections of the questionnaire with yes/no responses. We created factor and cluster scores, respectively, by either deriving the mean of the items included in the factor or creating additive indices of the "yes" responses. Alpha coefficients of reliability were calculated for each index.

Within our domain of academic decisions, two dependent variables emerged in the factor analysis: educational decisions and faculty decisions. The "educational decision" index is comprised of 10 item-variables and the "faculty decision" index is a composite of 2 item-variables.

Table 1

Variable Names, Type, Values, and Data Source

Variable	Type of Variable	Values	Data Source
Institutional Characteristics			
enrollment	item		IPEDS[1]
institutional type	item	Associate of Arts Baccalaureate Master's Doctoral Research	IPEDS
Institutional Approach to Student Assessment			
extent of assessment	additive index	Range = 10-55 Mean = 36.12	ISSA
number of instruments	additive index	Range = 0-24 Mean = 9.35	ISSA
student-centered methods	factor including: 1) student performance in capstone courses; 2) student portfolios or comprehensive projects; 3) observations of student performance; 4) student interviews or focus groups	Alpha = .61 Scale range = 1-4[6] Mean = 1.37	ISSA
external methods	factor including: 1) employer interviews or focus groups & 2) alumni interviews or focus groups	Alpha = .63 Scale range = 1-4[6] Mean = 2.04	ISSA
number of studies	additive index	Range = 0-9 Mean = 2.20	ISSA
number of reports	additive index	Range = 0-5 Mean = 2.47	ISSA
Institutional Support for Student Assessment			
mission emphasis	additive index	Range = 0-3 Mean = 1.48	ISSA

internal purposes	factor including: 1) guiding undergraduate academic program improvement; 2) improving achievement of undergraduate students; 3) improving faculty instructional performance; 4) guiding resource allocation decisions	Alpha = .79 Scale range[3] = 1-4 Mean = 2.48	ISSA
accrediting purpose	item	Scale range[2] = 1-4 Mean = 3.61	ISSA[3]
state purpose	item	Scale range[2] = 1-4 Mean = 2.89	ISSA
administrative and governance activities	additive index	Range = 0-7 Mean = 2.33	ISSA
administrative and faculty support	additive index	Range = 4-20 Mean = 17.05	ISSA
formal centralized policy	item	1 = yes/ 0 = no Mean = .50	ISSA
institution wide planning group	item	1 = yes/ 0 = no Mean = .70	ISSA
<u>Academic Management Policies and Practices</u>			
budget decisions	additive index	Range = 0-2 Mean = .08	ISSA
computer support	additive index	Range = 0-3 Mean = .79	ISSA
access to information	additive index	Range = 0-5 Mean = 3.46	ISSA
distribution of reports	additive index	Range = 0-6 Mean = 2.43	ISSA
student involvement	factor including: 1) students informed about student assessment purpose and uses; 2) students required to participate in assessment activities; 3) student provided individual feedback on assessment results	Alpha = .69 Scale Range = 1-5[7] Mean = 2.66	ISSA
professional development	factor including: 1) funds for faculty to attend assessment conferences; 2) student assessment workshops for faculty; 3) faculty assistance on assessment; 4) assessment workshops for academic administrators	Alpha = .77 Scale Range = 1-5[7] Mean = 1.89	ISSA

student affairs	factor including: 1) assessment training required for student affairs staff & 2) student assessment workshops for student affairs administrators	Alpha = .84 Scale Range = 1-5[7] Mean = 1.94	ISSA
faculty evaluation	factor including: 1) promotion evaluation includes student performance; 2) salary evaluation includes student performance; 3) evaluation considers faculty participation in student assessment; 4) evaluation considers scholarship on student assessment; 5) public recognition for faculty use of assessment	Alpha = .77 Scale Range = 1-5[7] Mean = 1.24	ISSA
academic planning and review policies	factor including: 1) course review uses assessment data; 2) department or program planning uses assessment data; 3) curriculum review uses assessment data; 4) academic support service planning uses assessment data	Alpha = .84 Scale Range = 1-5[7] Mean = 2.79	ISSA
Institutional Uses of Student Assessment			
educational decisions	factor including: 1) modify instructional or teaching methods; 2) design academic programs or majors; 3) revise general education curriculum; 4) create out-of-class learning experiences; 5) revise undergraduate academic mission; 6) revise undergraduate academic mission; 7) modify student academic support services; 8) design student affairs units; 9) allocate resources to academic units; 10) create distance learning initiatives	Alpha = .83 Scale Range = 1-4[8] Mean = 1.40	ISSA
faculty decisions	factor including: 1) decide faculty salary increases & 2) decide faculty promotion and tenure	Alpha = .79 Scale Range = 1-4[8] Mean = 1.28	ISSA

[1]Integrated Postsecondary Education Data System

[2]1 = no importance, 2 = minor importance, 3 = moderate importance, 4 = very important

[3] Inventory of Institutional Support for Student Assessment

[5]1= not collected, 2 = collected for some, 3 = collected for many, 4 = collected for all students

[6]1 = not used, 2 = used in some units, 3 = used in most units, 4 = used in all units

[7]1 = not done at all, 2 = done in a few departments, 3 = done in some departments, 4 = done in many departments, 5 = done in most departments

[8]1 = no action or influence unknown, 2 = action taken, data not influential, 3 = action taken, data somewhat influential, 4 = action taken, data very influential

[9]1 = not monitored, do not know, 2 = monitored, negative impact, 3 = monitored, no known impact, 4 = monitored, positive impact

Analyses

Following data reduction, descriptive and comparative statistics were run to examine student assessment approaches, organizational and administrative support patterns, the assessment management policies and practices, and use and influence of student assessment information in educational and faculty decision making. We created descriptive profiles of the responding institutions on whether they used student assessment information in making educational and faculty decisions in order to answer our first research question. We also conducted analyses of variance to examine mean differences on all variables by institutional type.

To answer our second and third research questions, we used linear regression to determine which institutional variables were related to whether student assessment data was influential in educational and faculty decisions. Regression models were estimated for all institutional respondents and separately for each institutional type. We entered each variable using the stepwise method. The use of stepwise regression was justified on several counts: the literature provided no basis for ordering predictor variables in the model a priori; the cross-sectional data used in this study made it impossible to infer temporal relationships among the predictor variables; and regression analyses entering all model variables, singly and in blocks based on conceptual domains, did not produce substantially different results from those obtained using the stepwise method. This model also provided values to account for changes in the explained variance in the outcome measure associated with each retained variable.

Results

Influence of Student Assessment Information on Educational and Faculty Decisions

Table 2 presents the means, standard deviations, and F scores for the twelve decision items listed in the ISSA instrument for all institutions and by institutional type. Of the 12 decisions listed in our instrument, the 10 educational decisions factored on one index with an alpha of .83 (see Table 2). The remaining two variables, "decide faculty salary increases" and "decide faculty promotion and tenure" factored together with a .79 measure of reliability. The means and standard deviations for these indices are also provided in Table 2. The mean scores provide a broad picture of the extent to which institutions have utilized information available from their undergraduate student assessment processes.

Table 2

Influence of Student Assessment Information on Educational and Faculty Decisions by Instit. Type

	Extent of Influence of Student Assessment Information[1]						
	All N = 1393	Assoc of Arts N=528	Bacca-laureate N=305	Master's N=306	Doctoral N=64	Research N=78	F
Educational Decisions							
1. Revising undergraduate academic mission or goals	2.06 (1.09)	2.06 (1.09)	2.09 (1.11)	2.16 (1.09)	1.92 (1.06)	1.51 (.82)	5.78**
2. Designing or reorganizing academic programs or majors	2.54 (1.03)	2.46 (1.04)	2.61 (1.05)	2.67 (.93)	2.38 (1.05)	2.33 (1.02)	3.58**
3. Designing or reorganizing student affairs units	1.91 (1.05)	1.88 (1.04)	1.93 (1.09)	1.90 (1.02)	1.92 (1.07)	1.99 (1.15)	.27
4. Allocating resources to academic units	1.81 (.94)	1.88 (.96)	1.77 (.95)	1.79 (.92)	1.59 (.89)	1.64 (.82)	2.41*
5. Modifying student assessment plans, policies or processes	2.61 (1.07)	2.70 (1.04)	1.55 (1.08)	2.60 (1.09)	2.56 (1.04)	2.29 (1.13)	2.90*
6. Modifying general education curriculum	2.47 (1.06)	2.39 (1.06)	2.57 (1.05)	2.55 (1.04)	2.37 (1.13)	2.26 (.99)	2.75*
7. Modifying student out-of-class learning experiences	2.14 (1.04)	2.00 (1.02)	2.34 (1.07)	2.22 (1.03)	2.16 (.95)	2.05 (.90)	5.92**
8. Creating or modifying distance learning initiatives	1.72 (.97)	1.88 (1.02)	1.52 (.93)	1.70 (.94)	1.66 (.91)	1.51 (.80)	7.47**
9. Modifying teaching methods	2.47 (.97)	2.51 (1.00)	2.43 (.98)	2.51 (.92)	2.38 (.96)	2.30 (.95)	1.14
10. Modifying student academic support services	2.56 (1.02)	2.56 (1.01)	2.49 (1.05)	2.56 (1.00)	2.48 (1.05)	2.73 (.94)	.99
EDUCATIONAL DEC. INDEX[2]	1.40 (.41)	1.40 (.42)	1.40 (.41)	1.44 (.38)	1.32 (.42)	1.29 (.34)	2.55*
Faculty Decisions							
1. Faculty promotion and tenure	1.46 (.78)	1.36 (.73)	1.70 (.93)	1.45 (.73)	1.36 (.74)	1.32 (.58)	10.03**
2. Faculty salary increases or rewards	1.39 (.73)	1.30 (.67)	1.49 (.81)	1.45 (.73)	1.34 (.72)	1.31 (.57)	4.23**
FACULTY DECISION INDEX[2]	1.28 (.62)	1.20 (.57)	1.44 (.71)	1.30 (.60)	1.22 (.59)	1.19 (.50)	8.04**

[1]1=no action or influence unknown; 2=action taken, data not influential; 3=action taken, data somewhat influential; 4=action taken, data very influential

[2]The value of the indices are slightly less than the values of the items as the means of the items were multiplied by their factor loadings in the calculation for the index scores.

*$p < .05$; ** $p < .01$

Note: Standard deviations are in parentheses.

ANOVAs were used to identify statistically significant differences among institutional types.

The means on the 12 items for all institutions range from 1.39 to 2.61, indicating that assessment information has had little or only limited influence on educational and faculty decisions. Of the ten items in the educational decision index, institutions most often reported that assessment had some degree of positive influence with respect to the following actions: modifying student assessment plans or processes (2.61); modifying student academic support services (2.56); designing or reorganizing academic programs or majors (2.54); modifying general education curriculum (2.47); and modifying teaching methods (2.47). To a lesser extent, all institutions reported that assessment information had influenced modifications to student out-of-class learning experiences (2.14) and revisions to undergraduate academic mission or goals (2.06). In terms of educational decisions, all institutions were least likely to report any influence from assessment information on: designing or reorganizing student affairs units (1.91), allocating resources to academic units (1.81), and creating or modifying distance learning initiatives (1.72). The two items in the faculty decision index were influenced less by student assessment information than any of the educational decision items. Student assessment data had little influence on decisions related to faculty promotion and tenure (1.46) and to faculty salary increases or rewards (1.39).

This pattern of responses suggests that many respondents are unaware of whether assessment had been influential or not in shaping educational and faculty decisions. When specific decisions had been made and the influence of assessment data was known, respondents were much more likely to report that this information had been somewhat influential than not influential or very influential (for percentages by response on these items, please refer to Peterson et al., 1999). Overall, assessment information was more likely to influence decisions regarding the assessment process itself, academic planning, and classroom-based instructional

practices than decisions concerning the budget, out-of-class learning experiences, and faculty evaluation and rewards.

Influence of Student Assessment Information on Educational and Faculty Decisions by Institutional Type

There were no statistically significant differences among the five institutional types on the assessment influences reported for three of the ten educational decisions: designing or reorganizing student affairs units; modifying teaching methods; and modifying student academic support services. The other seven decisions and the educational decision index all showed significant differences by institutional type but differences were generally not large in magnitude. The two faculty decision items and the faculty decision index all showed statistically significant differences by institutional type.

Associate of arts institutions reported the most influence from student assessment information on the following educational decision items: modifying student assessment plans or processes (2.70), allocating resources to academic units (1.88), and creating or modifying distance learning initiatives (1.88). They were least likely among the institutional types to report assessment information influences on faculty salary increases or rewards (1.30). Remaining responses fell in the middle range among institutional types.

Baccalaureate institutions were highest in reported influence on two educational decision items: modifying the general education curriculum (2.57) and modifying student out-of-class learning experiences (2.34). They were the lowest on modifying student assessment plans, policies, or processes (1.55). They were also highest on the two faculty decisions: deciding faculty promotion and tenure (1.70) and faculty salary increases or rewards (1.49).

Master's institutions reported the most assessment influence among institutional types on two educational decision items: revising undergraduate academic missions and goals (2.16) and designing or reorganizing academic programs or majors (2.67). They reported the second highest influence scores for all remaining educational and faculty decision items.

Doctoral institutions reported comparatively less influence from student assessment on either the educational or the faculty decision items. They were least likely to report that student assessment information had influenced decisions regarding resource allocations to academic units (1.59). All remaining responses were neither the highest nor lowest reported among institutional types.

Research institutions were least likely of all institutional types to report assessment influences on the educational decision items. They reported the lowest influence on four educational decision items: designing or reorganizing academic programs or majors (2.33); modifying general education curriculum (2.26); revising undergraduate academic mission or goals (1.51); and creating and modifying distance learning initiatives (1.51). They were also lowest in terms of the influence of student assessment information in deciding faculty promotion and tenure (1.32).

Given the patterns for the individual items, the resulting means for the indices are not surprising. There are significant differences among institutions types for both indices. For the educational decision index, master's institutions scored the highest and research institutions scored the lowest. For the faculty decision index, baccalaureate institutions scored the highest and research institutions again scored the lowest.

Predictors of the Influence of Student Assessment Information on Educational and Faculty Decisions

The results reported above demonstrate that many institutions have apparently not monitored the use of student assessment data and report only limited influence of student assessment data on educational and faculty decisions. Nonetheless, enough institutions responded that student assessment data has been monitored to advance to the next step in our research. Our second research question asks how institutional context, institutional approaches to, organizational and administrative support patterns for, and assessment management policies and practices regarding student assessment are related to the use and influence of student assessment information in educational and faculty decision making? In order to answer this question, we constructed a regression model for all institutions.

Our model for the educational decision index for all institutions had an adjusted R square of .43 and our model for the faculty decision index for all institutions had an adjusted R square of .15.

Table 3

Predictors of The Influence of Student Assessment Data on both Educational and Faculty Decisions for All Institutions

	Educational Decisions N=521		Faculty Decisions N=534	
	Beta	ΔR^2	Beta	ΔR^2
Adjusted R^2	**.42**		**.15**	
Institutional Context				
Size				
Institutional Approach to Student Assessment				
Extent of student assessment	.11**	.03		
Number of instruments				
Student-centered methods	.09*	.01	.10*	.01
External methods				
Total assessment studies	.22**	.17	.15**	.04
Total assessment reports				
Institutional Support for Student Assessment				
Mission emphasis				
Conduct for internal improvement	.17**	.06		
Conduct for accreditation	-.08*	.01		
Conduct for state	.14**	.02		
Admin. & gov. activities				
Admin. & faculty support				
Formal centralized policy				
Institution-wide planning group			-.10*	.01
Assessment Management Policies and Practices				
Budget Decisions			.11**	.02
Computer Support				
Access to Information	.09*	.01		
Distribution of Reports				
Student Involvement	.09*	.01		
Professional Development	.11**	.01	.09*	.01
Student Affairs Involve.	.16**	.09		
Faculty Evaluation[1]	.09*	.02	n/inc	
Acad. Planning & Rev.[2]	n/inc		.18**	.08

*$p < .05$; **$p < .01$

[1]The factor "faculty evaluation" was not entered into the regression model predicting use of student assessment information in making faculty decisions, since many of the items comprising these two factors were similar.

[2]The factor "academic planning and review" was not entered into the regression model predicting use of student assessment information in making educational decisions, since many of the items comprising these two factors were similar.

The model for the educational decision index was the better fit of the two. In this model, 11 predictor variables are statistically significant and they are distributed among approach, support, and assessment management policies and practices. The most significant variable, which also explains the most variance in the dependent measure, is the number of studies an institution does on relating students' performance to their interaction with the institution (B = .22, $p < .01$, $\Delta R^2 = .17$). Also highly significant are whether an institution conducts assessment for the purpose of improving internal institutional performance ($B = .17$, $p < .01$, $\Delta R^2 = .06$) and whether the institution involves student affairs personnel in the student assessment process (B = .16, $p < .01$, $\Delta R^2 = .09$). The next two statistically significant predictors are the extent of student assessment conducted by the institution and the amount of professional development provided by the institution. Also significant are: how many student-centered methods of assessment the institution uses, the level of access provided on student assessment information, the level of student involvement in assessment activities, and the level of faculty evaluation based on student assessment participation and results. The only negative predictor is fairly weak: whether the institution conducts student assessment to meet accreditation requirements.

The model on faculty decisions does not explain as much of the variance in the dependent measure (adjusted $R^2 = .15$). The most important predictor in terms of both significance level and amount of variance explained is whether the institution uses student assessment data to plan or review curriculum ($B = .18$, $p < .01$, $\Delta R^2 = .08$). The next two most important predictors are the number of studies conducted by an institution relating students' performance to their interactions with the institution ($B = .15$, $p < .01$, $\Delta R^2 = .04$) and the extent to which the academic budgeting process considers student assessment data ($B = .11$, $p < .01$, $\Delta R^2 = .02$). Two other

variables are significant, but explain less than 2% of the variance: the number of student centered methods the institution uses and the extent to which the institution offers professional development for faculty, administrators, and staff on student assessment. One predictor has a small negative effect on using student assessment data to make faculty-related decisions: whether the institution has an institution-wide planning group on student assessment.

Predictors of the Influence of Student Assessment Information on Educational and Faculty Decisions by Institutional Type.

Our third research question asked how these same predictor variables are related to educational and faculty decisions by institutional type. In order to answer this question, we ran the regression model separately for each institutional type. Table 4 presents the regression model on educational decisions by institutional type. We combined the doctoral and the research institutions together in order to increase the number of institutions in the regression model. The model continues to work well for each institutional type—working especially well for master's institutions (adjusted $R^2 = .60$).

Table 4

Predictors of the Influence of Student Assessment Information on Educational Decisions by Institutional Type

	Associate of Arts N = 212		Baccalaureate N = 118		Master's N = 137		Doctoral & Research N = 134	
	Beta	ΔR^2	Beta	ΔR^2	Beta	ΔR^2	Beta	ΔR^2
Adjusted R^2	**.41**		**.41**		**.60**		**.46**	
Institutional Context								
Size					.16**	.02		
Institutional Approach to Student Assessment								
Extent of student assessment					.37**	.28		
Number of instruments	.27**	.19			-.13*	.02		
Student-centered methods								
External methods								
Total assessment studies	.23**	.12	.32**	.11	.14*	.04	.25**	.08
Total assessment reports								
Institutional Support for Student Assessment								
Mission emphasis							-.17*	.02
Conduct for internal improvement	.13*	.02	.27**	.08	.22**	.13	.14*	.02
Conduct for accreditation								
Conduct for state								
Admin. & gov. activities								
Admin. & faculty support							.15*	.03
Formal centralized policy								
Institution-wide planning group	-.12*	.01						
Assessment Management Policies and Practices								
Budget Decisions					.15*	.02		
Computer Support								
Access to Information					.23**	.07		
Distribution of Reports	.15*	.01						
Student Involvement			.19*	.04	.16*	.02	.18*	.03
Professional Development							.26**	.20
Student Affairs Involve.	.17**	.05	30**	.20	.21**	.03		
Faculty Evaluation	.16**	.03					.30**	.12
Acad. Planning & Rev.[1]	n/inc		n/inc		n/inc		n/inc	

*$p < .05$; **$p < .01$

[1]The factor "academic planning and review" was not entered into the regression model predicting use of student assessment information in making educational decisions, since many of the items comprising these two factors were similar.

The model works well for associate degree institutions, explaining 41% of the variance in the influence of student assessment data on educational decisions. Seven predictor variables are significant and these are spread fairly evenly among approach, support, and assessment management policies and practices. The most significant variable, explaining most of the variance, is the number of instruments these institutions use in assessing students ($B = .27, p < .01, \Delta R^2 = .19$). The next most important variable in this model is the total number of institutional studies relating students' performance to their interactions with the institution ($B = .23, p < .01, \Delta R^2 = .12$). The four remaining significant, positive predictors are similar in terms of significance and strength: the extent to which student affairs personnel are involved in assessing students, the extent to which faculty are evaluated on student assessment participation and results, the level of student assessment report distribution, and whether the institution conducts assessment to improve internal activities. Finally, the existence of an institution-wide group that plans for student assessment has a small negative influence on the extent to which these institutions use student assessment data to make educational decisions.

Although the model for baccalaureate institutions is similarly strong ($R^2 = .41$), there are only four significant predictor variables. The two most important variables, in terms of both significance and strength in accounting for the explained variance in the dependent measure, are the extent to which student affairs personnel are involved in assessing students ($B = .30, p < .01, \Delta R^2 = .20$) and the total number of institutional studies conducted on the relationship between students' performance to their interactions with the institution ($B = .32, p < .01, \Delta R^2 = .11$). The remaining two variables are also fairly strong predictors: whether the institution conducts

assessment to improve internal activities and the level of student involvement in student assessment.

The model works best for master's institutions, explaining 60% of the overall variance. Nine predictor variables are significant. Eight of these have a positive impact on the influence of student assessment data in educational decision making. The most important of these is the extent of student assessment conducted by the institution ($B = .37, p < .01, \Delta R^2 = .28$). This variable alone accounts for over a quarter of the overall variance explained. Two variables follow this one in terms of importance: whether the institution conducts assessment for internal improvement ($B = .22, p < .01, \Delta R^2 = .13$) and the number of people who have access to student assessment information ($B = .23, p < .01, \Delta R^2 = .07$). The remaining five variables that positively predict the dependent measure are all fairly equivalent in terms of importance: student enrollment; the total number of institutional studies linking students' performance to their interaction with the institution; the extent to which the academic budgeting process considers student assessment efforts and results; and both the level of student and of student affairs personnel involvement in student assessment. The number of instruments used by the institution has a slight negative effect on the extent to which the institution uses student assessment information to make educational decisions.

The model for the doctoral and research institutions is also strong, explaining 46% of the overall variance in the extent to which these institutions use student assessment data in making educational decisions. Seven predictor variables are significant and six are positive. The three most important predictors are: the extent to which the institutions provide professional development on student assessment to faculty, administrators, and staff ($B = .26, p < .01, \Delta R^2 =$

.20); the extent to which faculty are evaluated on participating in and using results of student assessment ($B = .30, p < .01, \Delta R^2 = .12$), and the number of institutional studies relating students' performance to their interactions with the institutions ($B = .25, p < .01, \Delta R^2 = .08$). The remaining three positive predictors are fairly similar in strength: the importance of internal improvement as a purpose for conducting student assessment; the level of administrative and faculty support for student assessment; and the level of student involvement in student assessment. One predictor, the extent to which the mission emphasizes undergraduate education and student assessment, has a small negative impact on the extent to which institutions use student assessment data to make educational decisions.

The following table presents the results of the regression models on faculty-related decisions by institutional type.

Table 5

Predictors of the Influence of Student Assessment Information on Faculty Decisions by Institutional Type

	Associate of Arts N = 217		Baccalaureate N = 123		Master's N = 138		Doctoral & Research N = 144	
	Beta	ΔR^2	Beta	ΔR^2	Beta	ΔR^2	Beta	ΔR^2
Adjusted R^2	**.11**		**.40**		**.10**		**.04**	
Institutional Context								
Size								
Institutional Approach to Student Assessment								
Extent of student assessment								
Number of instruments								
Student-centered methods			.26*	.11				
External methods			.22*	.17				
Total assessment studies	.22**	.07						
Total assessment reports					.24**	.08		
Institutional Support for Student Assessment								
Mission emphasis								
Conduct for internal improvement			.15*	.06				
Conduct for accreditation								
Conduct for state			.17*	.04				
Admin. & gov. activities								
Admin. & faculty support								
Formal centralized policy								
Institution-wide planning group	-.13*	.02						
Assessment Management Policies and Practices								
Budget Decisions			.20*	.03				
Computer Support								
Access to Information								
Distribution of Reports								
Student Involvement							.21	.04
Professional Development					.19*	.03		
Student Affairs Involve.			.18*	.03				
Faculty Evaluation[1]	n/inc		n/inc					
Acad. Planning & Rev.	.19**	.04						

*$p < .05$; **$p < .01$

[1]The factor "faculty evaluation" was not entered into the regression model predicting use of student assessment information in making faculty decisions, since many of the items comprising these two factors were similar.

Both the small number of items in the faculty decision index (2) and the reported low level of influence of student assessment on faculty decisions limit the usefulness of this model. The results of the regressions in Table 5 confirms the limitations. The model accounts for more than 10% of the variance only for the baccalaureate institutions where it accounts for 40% of the variance. The success of this model reflects the fact that these institutions were the ones most likely to report student assessment data as influential in faculty decisions (see Table 2 on p. 17). Two approach variables are significant and account for the most variance: the extent to which the institutions use student-centered methods ($B = .26, p < .05, \Delta R^2 = .11$) and the extent to which the institutions use external methods ($B = .22, p < .05, \Delta R^2 = .17$). Two institutional support variables are significant and moderately influential: whether the institution conducts assessment for internal improvement ($B = .15, p < .05, \Delta R^2 = .06$) and whether the institution conducts assessment to meet state mandates ($B = .17, p < .05, \Delta R^2 = .04$). Two assessment management practices variables contribute significantly although at a lesser level: the extent to which institutions link student assessment processes to budget decisions and the extent to which they involve student affairs personnel in their assessment processes.

Conclusion

Our conclusion to research question one is that many institutions are not using student assessment data when making educational and faculty-related decisions. Even more are not aware of how influential this data is, perhaps implying that using student assessment data for decisions has not been intentional. However, there is variance among institutional types in terms of the extent to which they use and see the influence of student assessment data to make educational and faculty-related decisions. Baccalaureate institutions are most likely to use

student assessment information to make decisions regarding faculty promotion and tenure and faculty salary increases or rewards. This finding is not surprising given these institutions' emphasis on the teaching and learning of undergraduates. Conversely, research institutions tend to make the least use of student assessment data in making both educational and faculty-related decisions. Neither is this finding surprising, given these institutions' emphasis on both research and graduate-level education.

On our second research question regarding what variables predict the extent to which institutions find student assessment data influential in making educational and faculty decisions. it is not surprising that the number of institutional studies relating students' performance to their interactions with the institution was an important predictor in both models. Understanding what factors influence student performance should be useful in making educational decisions. It is also not surprising that conducting student assessment to improve internal institutional performance affects the extent to which student assessment data is used to make educational decisions. This finding not only confirms results of earlier studies, but if institutions intend to improve their performance by using the data, it is probably more likely that they will do so. It is more interesting that the involvement of student affairs personnel in student assessment is a strong predictor in the educational decision model. Perhaps involving student affairs personnel is an indication that the institution is heavily committed to student assessment and has involved constituents outside of the academic affairs offices.

The next two important predictors also make sense intuitively. The extent of student assessment conducted makes a difference, as does the extent of professional development related to student assessment that is offered to faculty, staff, and administrators. Both of these variables represent an institutional commitment to the student assessment process. Neither are the

remaining five significant predictors surprising. However, it is somewhat surprising that conducting student assessment for accreditation purposes emerged as a negative predictor in the educational decisions model. Apparently, the more important the accreditation mandate is to the institution, the less likely the institution is to use student assessment data to make educational decisions. Perhaps institutions are either threatened by or resent the external requirement and are therefore less likely to commit to their student assessment process beyond what is necessary to achieve accreditation.

In answering our third research question, the models by institution type provide greater insight into how different institutions use assessment data when making educational decisions. Two variables remain strong predictors, regardless of institutional type: the number of institutional studies relating students' performance to their interactions with the institution, and the extent to which the institutions hold internal improvement as an important purpose for conducting student assessment. In the educational decision model, for all but associate of arts institutions, the level of student involvement is an important predictor. It may be difficult to involve students at associate of arts institutions as most are commuting and many are attending part-time. In this same model, involving student affairs personnel is an important predictor at all but the doctoral and research institutions. This finding is not surprising, given that research universities are least likely, after baccalaureate institutions, to involve student affairs personnel in assessment (Peterson et al., 1999).

For associate of arts institutions there are several variables that are important in predicting the influence of student assessment in educational and faculty decisions. In addition to the three mentioned above (total studies, internal improvement, and student affairs involvement), the number of instruments used and the extent of report distribution are both

significant predictors. Both of these variables speak to the extent of student assessment at the institution. In addition, the extent of faculty evaluation that incorporates student assessment results positively predicts the influence of student assessment information in educational decisions. Similarly, the extent of academic planning and review that incorporates student assessment results positively predicts the influence of student assessment in faculty decisions. It is not surprising that if institutions use assessment to make decisions in the academic realm, they will also do so in the faculty-decision realm.

Perhaps the most interesting finding for the associate of arts institutions is the negative influence of having an institution-wide planning group on using student assessment data in making both educational and faculty decisions. If there is a planning group, it is likely that the survey respondent was a member of it, and perhaps members of such a group quite clearly realize the limits of using student assessment results at their institution. Or, conversely, these members may not see the uses of student assessment results if the people who are using them are not members of the planning group. Or, finally, perhaps the centralization of student assessment data into one planning group, coupled with the usual complexities of committee work, have hindered the use of assessment data in these institutions.

Baccalaureate institutions mainly follow the pattern described above, namely that total assessment studies, conducting for internal improvement, and both student and student affairs personnel involvement were all important predictors. However, four other predictors were important in the faculty decision model. Both the extent of student-centered methods and the extent of external methods were important predictors of the influence of student assessment data in making faculty-related decisions. Faculty may be more actively involved in these types of student assessment measures, as opposed to the more traditional tests and instruments. It makes

sense that in institutions where faculty decisions are based on student assessment involvement and results, faculty would become more actively involved in assessing their students. Whether the institution conducts assessment to meet state mandates is also an important predictor in this model. It is likely that states may require that institutions demonstrate a link between student assessment and institutional performance, and for baccalaureate institutions, faculty performance is often the measure of institutional performance. Finally, if these institutions connect budgeting decisions to student assessment processes and results, they are more likely to purport that student assessment results have influenced faculty related decisions. This finding is not surprising as both linking assessment results to budgeting and to faculty decisions implies a similar institutional strategy or "way of doing things."

While master's institutions also follow the pattern of being affected by total studies, conducting assessment for internal improvement, and student and student affairs personnel involvement, there are several other important predictors for these institutions. In the faculty decisions model, the extent of report distribution is an important predictor. It is likely that this variable is indicative of the level of commitment to student assessment at the institution. Surprisingly, this institutional type is the only one for which the extent of student assessment conducted is an important predictor of the influence of student assessment on educational decisions. One could logically believe that the more student assessment conducted, the more likely the results would be to influence the institution. It is perhaps more telling that this variable was not predictive in the other models, than that it is predictive for master's institutions. For most institutional types, more activity does not automatically equal greater use of the results of that activity.

Also surprising is that master's institutions are the only institutional type for which access to student assessment information is a significant predictor of the influence of student assessment information in educational decisions. One could conclude that access to information would lead to use of information, but for most institutional types, this is not the case. Enrollment size is also significant only for master's institutions. The larger institutions are more likely to use student assessment information in making educational decisions. Perhaps there is more variance in master's institutions by size in terms of institutional resources that can be devoted to processes for linking student assessment results to educational decisions. As was the case with baccalaureate institutions, linking budget decisions to student assessment is also an important predictor for master's institutions. Finally, the number of instruments used by master's institutions is a negative predictor of the influence of student assessment information on educational decisions—an opposite finding to that for associate of arts institutions. Perhaps for master's institutions, using traditional tests and instruments comes at the expense of using student or externally-focused assessment techniques that involve more faculty, staff, and administrators. Less involvement could mean fewer people are aware of or interested in assessment activities and results. This assumption meshes with the finding that access to information is a significant predictor of the influence of student assessment information on educational decisions for master's institutions.

For the most part, doctoral and research institutions follow the pattern of the influence of number of studies, conducting for internal improvement, and the level of student involvement. Like associate of arts institutions, if doctoral and research institutions use student assessment involvement and data to evaluate faculty, they are more likely to use such data to make educational decisions. Unlike any other institutional type, however, the extent of professional

development on student assessment is also an important predictor variable. It seems logical that institutions that educate their internal constituents on student assessment processes and uses would be more likely to use student assessment data to make educational decisions. Since professional development on student assessment is a fairly prevalent assessment management practice, it is interesting that this practice is not a significant predictor of using student assessment data to make educational decisions for most institutional types. Perhaps this finding indicates shortcomings of professional development programming.

Similarly, it is interesting that doctoral / research institutions are the only institutional type for which administrative and faculty support for student assessment is predictive of the influence of student assessment information on educational decision making. Perhaps in these institutions where both faculty and administrative autonomy tend to be high, internal support is a necessary requirement for the success of a decision-making process. Finally, in these institutions, whether the academic mission emphasizes student assessment and undergraduate education has a negative influence on whether the institution uses student assessment data to make educational decisions. This finding is difficult to speculate on. The mission may be emphasizing student assessment in and of itself, but that does not mean that institutions intend or desire to use student assessment results in decision-making. However, why such a mission emphasis would have a negative impact is unclear. Perhaps these institutions are using their mission statements to motivate their internal constituents to engage in activities most have not yet embraced.

For all institutions, the overall pattern of the extent of assessment studies, conducting assessment for internal improvement, and involving both students and student affairs personnel all predicting the influence of student assessment in educational and faculty decisions is

powerful, both statistically and conceptually. The differences we found by institutional type provide a richer picture of the influences on using student assessment results in academic decision-making. Understanding these influences could be helpful to institutional administrators who wish to increase their use of student assessment results in their educational and faculty-related decision making. Further studies could expand upon why and how some predictor variables work for some institutional types, but not for others.

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